

each of the on-off devices being of the type selected from the group including a 2 -type on-off device having a two-port valve, a 2-3-type on-off device having a two-port valve and a three-port valve, a 2-3-3 -type on-off device having a two-port valve and two three-port valves, a 3-3-type on-off device having two three-port valves, and a 3-3-3-type on-off device having three three-port valves,

main bodies of two-port valves of all types of on-off devices being identical in configuration and each having an inlet port and an outlet port in a bottom face thereof, and main bodies of three-port valves of all types of on-off devices being identical in configuration and each being formed in a bottom face thereof with an inlet port, an outlet port always in communication with the inlet port, and an inlet-outlet subopening having a port separate from said inlet port and said outlet port;

each port of said two-port valves and said three-port valves being arranged in a row disposed in a common plane along said each line; and

valve mounts mounting said valve main bodies including a plurality of joint members having upper surfaces disposed in substantial coplanar relation and having a channel for holding the adjacent inlet port and outlet port of adjacent valves in communication, said joint members containing internal passages communicating with ports of said valves and operatively interconnecting said valves and said fluid controllers in selected fluid flow relation.

2. (Amended) A fluid control apparatus according to claim 7 wherein a fluid is passed through at least one of the fluid controllers, and the 2-type on-off device is disposed at each of the inlet side and the outlet side of said at least one fluid controller.

3. (Amended) A fluid control apparatus according to claim 8 wherein two kinds of fluids are passed through at least one of the fluid controllers, and the 2-3-type on-off device is disposed at each of the inlet side and the outlet side of said at least one fluid controller.

4. (Amended) A fluid control apparatus according to claim 12 wherein two kinds of fluids are passed through at least one of the fluid controllers, and the 2-3-type on-off device is disposed at the inlet side of said at least one fluid controller, the 2-3-3-type on-off device being disposed at the outlet side thereof.

5. (Amended) A fluid control apparatus according to claim 10 wherein two kinds of fluids are passed through at least one of the fluid controllers, and a bypass channel bypassing said at least one fluid controller is provided between the inlet side and the outlet side thereof, the 3-3-type on-off device being disposed at each of the inlet side and the outlet side of said at least one fluid controller.

6. (Amended) A fluid control apparatus according to claim 12 wherein two kinds of fluids are passed through at least one of the fluid controllers, and an evacuating channel is provided at the outlet side of said at least one fluid controller, a bypass channel bypassing said at least one fluid controller and being provided between the inlet side and the outlet side thereof, the 3-3-type on-off device being disposed at the inlet side of said at least one fluid controller, the 3-3-3-type on-off device being disposed at the outlet side thereof.

7. (New) A fluid control apparatus comprising a plurality of lines, each line having a fluid controller, an inlet on-off device and an outlet on-off device arranged respectively at an inlet side and an outlet side of each of the fluid controllers, each of the on-off devices comprising one valve or a plurality of valves, with the adjacent valves interconnecting each other without using tubing,

each of the on-off devices being of the type selected from the group including a 2-type on-off device having a two-port valve, a 2-3-type on-off device having a two-port valve and a three-port valve, a 2-3-3-type on-off device having a two-port valve and two three-port valves, a 3-3-type on-off device having two three-port valves, and a 3-3-3-type on-off device having three three-port valves, and at least one on-off device is a 2-type and at least one on-off device is selected from the group including a 2-3-type, a 2-3-3-type, a 3-3-type and a 3-3-3-type, main bodies of two-port valves of all types of on-off devices being identical in configuration and

each having an inlet port and an outlet port in a bottom face thereof, and main bodies of three-port valves of all types of on-off devices being identical in configuration and each being formed in a bottom face thereof with an inlet port, an outlet port always in communication with the inlet port, and an inlet-outlet subopening having a port separate from said inlet port and said outlet port;

each port of said two-port valves and said three-port valves being arranged in a row disposed in a common plane along said each line; and

valve mounts mounting said valve main bodies including a plurality of joint members having upper surfaces disposed in substantial coplanar relation, said joint members containing internal passages communicating with ports of said valves and operatively interconnecting said valves and said fluid controllers in selected fluid flow relation.

8. (New) A fluid control apparatus comprising a plurality of lines, each line having a fluid controller, an inlet on-off device and an outlet on-off device arranged respectively at an inlet side and an outlet side of each of the fluid controllers, each of the on-off devices comprising one valve or a plurality of valves, with the adjacent valves interconnecting each other without using tubing, each of the on-off devices being of the type selected from the group including a 2-type on-off device having a two-port valve, a 2-3-type on-off device having a two-port valve and a three-port valve, a 2-3-3-type on-off device having

a two-port valve and two three-port valves, a 3-3-type on-off device having two three-port valves, and a 3-3-3-type on-off device having three three-port valves, and at least one on-off device is a 2-3-type and at least one on-off device is selected from the group including a 2-type, a 2-3-3-type, a 3-3-type and a 3-3-3-type, main bodies of two-port valves of all types of on-off devices being identical in configuration and each having an inlet port and an outlet port in a bottom face thereof, and main bodies of three-port valves of all types of on-off devices being identical in configuration and each being formed in a bottom face thereof with an inlet port, an outlet port always in communication with the inlet port, and an inlet-outlet subopening having a port separate from said inlet port and said outlet port;

each port of said two-port valves and said three-port valves being arranged in a row disposed in a common plane along said each line; and

valve mounts mounting said valve main bodies including a plurality of joint members having upper surfaces disposed in substantial coplanar relation, said joint members containing internal passages communicating with ports of said valves and operatively interconnecting said valves and said fluid controllers in selected fluid flow relation.

9. (New) A fluid control apparatus comprising a plurality of lines, each line having a fluid controller, an inlet on-off device and an outlet on-off device arranged respectively at an inlet side and an outlet side of each of the fluid controllers,

each of the on-off devices comprising one valve or a plurality of valves, with the adjacent valves interconnecting each other without using tubing, each of the on-off devices being of the type selected from the group including a 2 -type on-off device having a two-port valve, a 2-3-type on-off device having a two-port valve and a three-port valve, a 2-3-3-type on-off device having a two-port valve and two three-port valves, a 3-3-type on-off device having two three-port valves, and a 3-3-3-type on-off device having three three-port valves, and at least one on-off device is a 2-3-3-type and at least one on-off device is selected from the group including a 2-type, a 2-3-type, a 3-3-type and a 3-3-3-type, main bodies of two-port valves of all types of on-off devices being identical in configuration and each having an inlet port and an outlet port in a bottom face thereof, and main bodies of three-port valves of all types of on-off devices being identical in configuration and each being formed in a bottom face thereof with an inlet port, an outlet port always in communication with the inlet port, and an inlet-outlet subopening having a port separate from said inlet port and said outlet port;

each port of said two-port valves and said three-port valves being arranged in a row disposed in a common plane along said each line; and

valve mounts mounting said valve main bodies including a plurality of joint members having upper surfaces disposed in substantial coplanar relation, said joint members containing internal passages communicating with ports of said valves and operatively interconnecting said valves and said fluid controllers in selected fluid flow relation.

10. (New) A fluid control apparatus comprising a plurality of lines, each line having a fluid controller, an inlet on-off device and an outlet on-off device arranged respectively at an inlet side and an outlet side of each of the fluid controllers, each of the on-off devices comprising one valve or a plurality of valves, with the adjacent valves interconnecting each other without using tubing, each of the on-off devices being of the type selected from the group including a 2 -type on-off device having a two-port valve, a 2-3-type on-off device having a two-port valve and a three-port valve, a 2-3-3-type on-off device having a two-port valve and two three-port valves, a 3-3-type on-off device having two three-port valves, and a 3-3-3-type on-off device having three three-port valves, and at least one on-off device is a 3-3-type and at least one on-off device is selected from the group including a 2-type, a 2-3-type, a 2-3-3-type and a 3-3-3-type, main bodies of two-port valves of all types of on-off devices being identical in configuration and each having an inlet port and an outlet port in a bottom face thereof, and main bodies of three-port valves of all types of on-off devices being identical in configuration and each being formed in a bottom face thereof with an inlet port, an outlet port always in communication with the inlet port, and an inlet-outlet subopening having a port separate from said inlet port and said outlet port;

each port of said two-port valves and said three-port valves being arranged in a row disposed in a common plane along said each line; and

valve mounts mounting said valve main bodies including a plurality of joint members having upper surfaces disposed in substantial coplanar relation, said joint members containing internal passages communicating with ports of said valves and operatively interconnecting said valves and said fluid controllers in selected fluid flow relation.

11. (New).A fluid control apparatus comprising a plurality of lines, each line having a fluid controller, an inlet on-off device and an outlet on-off device arranged respectively at an inlet side and an outlet aide of each of the fluid controllers, each of the on-off devices comprising one valve of a plurality of valves, with the adjacent valves interconnecting each other without using tubing,

each of the on-off devices being of the type selected from the group including a 2 -type on-off device having a two-port valve, a 2-3-type on-off device having a two-port valve and a three-port valve, a 2-3-3-type on-off device having a two-port valve and two three-port valves, a 3-3-type on-off device having two three-port valves, and a 3-3-3-type on-off device having three three-port valves, and at least one on-off device is a 3-3-3-type and at least one on-off device Is selected from the group including a 2-type, a 2-3-type, a 2-3-3-type and a 3-3-type, main bodies of two-port valves of all types of on-off devices being identical in configuration and each having an inlet partand an outlet port in a bottom face thereof, and main bodies of three-port valves of all types of on-off devices being identical in configuration and each being formed in

a bottom face thereof with an inlet port, an outlet port always in communication with the inlet port, and an inlet-outlet subopening having a port separate from said inlet port and said outlet port; each port of said two-port valves and said three-port valves being arranged in a row disposed in a common plane along said each line; and

valve mounts mounting said valve main bodies including a plurality of joint members having upper surfaces disposed in substantial coplanar relation, said joint members containing internal passages communicating with ports of said valves and operatively interconnecting said valves and said fluid controllers in selected fluid flow relation.

12. (New) A fluid control apparatus comprising a plurality of lines, each line having a fluid controller, an inlet on-off device and an outlet on-off device arranged respectively at an inlet side and an outlet side of each of the fluid controllers, each of the on-off devices comprising one valve or a plurality of valves, with the adjacent valves interconnecting each other without using tubing, each of the on-off devices being of the type selected from the group including a 2-type on-off device having a two-port valve, a 2-3-type on-off device having a two-port valve and a three-port valve, a 2-3-3-type on-off device having a two-port valve and two three-port valves, a 3-3-type on-off device having two three-port valves, and a 3-3-3-type on-off device having three three-port valves, and all types on-off devices are included in the fluid control apparatus;

main bodies of two-port valves of all types of on-off devices being identical in configuration and each having an inlet port and an outlet port in a bottom face thereof, and main bodies of three-port valves of all types of on-off devices being identical in configuration and each being formed in a bottom face thereof with an inlet port, an outlet port always in communication with the inlet port, and an inlet-outlet subopening having a port separate from said inlet port and said outlet port;

each port of said two-port valves and said three-port valves being arranged in a row disposed in a common plane along said each line; and

valve mounts mounting said valve main bodies including a plurality of joint members having upper surfaces disposed in substantial coplanar relation, said joint members containing internal passages communicating with ports of said valves and operatively interconnecting said valves and said fluid controllers in selected fluid flow relation.